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ELECTRONIC DATA-PROCESSING PROGRAMME OF UNIDO

Report by the Director-General

Summary

Updates information provided in documents PBC.9/6 and GC.5/27 on action taken in response to recommendations of the External Auditor and independent consultants and on the cost of EDP programme implementation and contractual commitments.

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1. In its decision GC.4/Dec.18, paragraph (h), the General Conference requested the Director-General to report to the subsequent sessions of the policy-making organs on the programme and cost of implementing the consultants' recommendations and the recommendations of the External Auditor contained in documents GC.4/CRP.1 and GC.4/50 as regards the electronic data-processing (EDP) programme. Since the adoption of that decision, and commencing with document IDB.9/12, the Director-General has submitted reports to sessions of the policy-making organs providing the requisite information.

2. Annexes I and II to the present report update the information provided in document PBC.9/6 on action taken with respect to the recommendations of Touche Ross Management Consultants (GC.4/CRP.1) and those of the External Auditor (GC.4/50 and IDB.10/4-PBC.8/9, paras. 153-180), as well as the recommendations of Andersen Consulting. Those recommendations that have been fully implemented as reported in document PBC.9/6 are not included. Annexes III and IV, covering respectively the cost of implementation of the EDP programme and contractual commitments, have been updated to 31 December 1993 to provide a complete picture for the 1992-1993 biennium.

3. A new facilities management bidding procedure was initiated in mid-1993 with the aim of achieving savings in the cost of running the mainframe computer. In December 1993 the Contracts Committee endorsed the recommendation to award a facilities management contract to the International Atomic Energy Agency, and negotiations to finalize a contract are currently under way.

4. The implementation of the EDP programme has entered a phase of routine operation and controlled cost. Because no major developments in the status of the recommendations of Touche Ross Management Consultants and those of the External Auditor had taken place, as reported in IDB.11/23 and GC.5/27, no briefings of Permanent Missions took place between the eleventh session of the Board and the fifth session of the General Conference. A briefing is foreseen when the negotiations for a new facilities management contract have been concluded and further briefings are envisaged as major developments occur.

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Annex I

STATUS OF ACTION TAKEN ON OUTSTANDING RECOMMENDATIONS OF
TOUCHE ROSS MANAGEMENT CONSULTANTS a/
AND OF ANDERSEN CONSULTING b/

OUTSTANDING RECOMMENDATIONS	CURRENT STATUS
1. There is a need for a systematic review of procedures within UNIDO. This review must come about from a management initiative and cannot be led by EDP. There is too much duplication of effort and too much reliance on paper-based methods. (8.1.2)	1. As reported in PBC.9/6, the Division of Administration continues to streamline its procedures with the primary focus on eliminating duplication of effort and reducing paper flow. A simplified procedure for the processing of personnel actions that relies on a computerized system was recently introduced. As new changes materialize, a statement on the impact of such streamlining will be the subject of future updated reports.
2. The information technology steering group should identify and sanction any proposed changes to packages. (8.1.3)	2. With the endorsement of the Information Technology Steering Committee (ITSC), an add-on software package was acquired in 1993 in order to provide security to programs written using NATURAL. At the present time no additional changes to the software environment are envisaged. However, if required they will be implemented only upon ITSC endorsement.
3. Extensive training of EDP will be required in the use of new methods and tools. (8.1.3)	3. Management Information Services (MIS) senior staff trained in the use of the methodology and tools for information systems development have been applying their knowledge of SSADM (Structured Systems Analysis and Design Methodology) and SSADM Engineer, the CASE (Computer-Aided Software Engineering) tool, and have passed on this knowledge and experience to other colleagues. One of the meetings of ITSC in 1993 was dedicated to training activities. This resulted in directives for the plan for 1994 computer-related training of UNIDO staff as well as the policy on training for technical staff of MIS. Based on the trends in technology and the recommendation of ITSC, and in preparation for the task of moving to a distributed computing environment, three MIS staff members received training in 1993 in client/server architecture and distributed computing. In order to update existing staff skills in the application of new technologies, considerable training of MIS staff will be required in the 1994-1995 biennium.
4. Further investment in current systems should be avoided. Maintenance of existing systems must be restricted to changes which are absolutely essential, even if this will undoubtedly lead to dissatisfaction in the user community. The commitment of management is vital to maintain the support and understanding of the user community during this difficult period. (8.1.3)	4. As reported in PBC.9/6, only a limited number of activities in the form of new application development projects could be addressed in 1993. The recent staff reductions will have a further impact on the development of new applications in 1994. Consequently, reliance on existing systems will have to continue and essential maintenance tasks or necessary system enhancements will consume most of the existing resources of the Applications Services Unit.

a/ References in the column "Outstanding recommendations" refer to sections of the final report of Touche Ross (GC.4/CRP.1).

b/ Strategic Automation Plan - Phase 2 Final Report, Vienna, 16 June 1992.

5. The use of package application software should be viewed as a primary source of new systems. (8.1.3) The option of obtaining a suitable package should be considered first and, only after dismissing this possibility, should the option of developing in-house be considered. (8.3.1.) Packages should only be chosen where the amount of customization needed can be kept to a minimum. (8.3.1) Changes to packages should be kept to a minimum and reflect only changes which are essential. (8.1.3)	5. Reported in PBC.9/6. Could be eliminated from future updated reports.
6. If FINSYS/PERSYS of FAO is put in place and modifications are needed, these should be contracted out, together with future maintenance, to a third party software house rather than build another skill set within UNIDO. (8.3.1)	6. As reported in PBC.9/6 and based on the recommendations of Andersen Consulting, the FAO system will not be considered any further. Instead, UNIDO will continue to rely on the Integrated Management Information System (IMIS) being developed by the United Nations in New York. For this purpose, MIS will closely follow developments and the implementation of the first components in Vienna later this year.
7. EDP will need to have in place a formal process for managing development projects, analysing user requirements and for turning the requirements into quality applications. (8.2) For this, the PRINCE methodology should be used and PRINCE project boards put in place. (8.2.1) UNIDO should acquire a project management tool, running on a PC, to assist in the control of projects. (8.2.1) UNIDO should acquire a methodology to provide EDP with a clear structure for development and give a list of tasks to be performed at each stage in the systems development life-cycle: strategic systems planning, tactical systems planning, systems analysis and logical design, selection of packages, building of custom-written systems, systems implementation. Automated tools should also be acquired to support the analysis and design stages (CASE tools). (8.2.2)	7. Reported in PBC.9/6. Could be eliminated from future updated reports.
8. Better communications with the field need to be put in place. In the long-term, if and when it can be cost-justified, computer-based communications can be considered. (8.1.1)	8. As endorsed by ITSC in December 1993, UNIDO will become a node of Internet in early 1994. As a non-commercial global network that links together over 15 million users in more than 60 countries, Internet can be a vehicle to improve communication with the field and to promote access to industrial and technological information databases.
9. The cabling programme should be resumed with the wiring of six floors in 1992-1993 and the remainder in 1994-1995. Priority should be given to those floors with greatest needs. (8.3.2)	9. As reported in PBC.9/6, two floors were cabled in 1993 and two are planned to be cabled in 1994. This will contribute to a simplification of computer reconnection as a result of the restructuring of the Secretariat.
10. PCs in EPL/LD must be connected by means of a LAN. (8.3.2) The Wang VS processors should be phased out in approximately two years. (8.3.2, 8.3.3)	10. Reported in PBC.9/6.
11. The acquisition of 90 PCs per biennium should go a long way towards satisfying UNIDO needs. (8.3.2)	11. The number of PCs to be acquired in 1994-1995 will be based on this Touche Ross recommendation. However, lower hardware costs will facilitate the replacement of obsolete or malfunctioning equipment.

Annex II

STATUS OF ACTION TAKEN ON RECOMMENDATIONS OF
THE EXTERNAL AUDITOR

PRIMARY RECOMMENDATIONS	CURRENT STATUS
1. A system should be established to spread all EDP non-staff costs among different user Departments. (GC.4/50, paras. 12, 45, 46)	1. As reported in PBC.9/6, a system to distribute non-staff costs is in place. It has been used for presentation purposes, to distribute the computerization budget among divisions. Since 1993 MIS staff has charged time worked against various projects and activities in the work plan; this could become the basis for distribution of MIS staff costs. A plan will be proposed to ITSC, with the purpose of budgeting the allocation of MIS staff costs and subsequently distributing the actual costs in the 1996-1997 biennium.
2. A disaster recovery plan should be worked out which would enable both UNIDO and IAEA to mutually provide a backup computer installation at no additional costs. (GC.4/50, paras. 16, 62-65)	2. Discussions with representatives of IAEA in 1993 did not yield an agreement for a mutual backup installation because, by end 1994, IAEA will have migrated all mission-critical applications from the mainframe computer. However, the need for UNIDO to have a backup facility in case of disaster has again been included in the negotiations for facilities management services and the outcome will be reported in the next report.
3. A system for managing, controlling and auditing automation projects should be introduced. (GC.4/50, paras. 18, 71-75)	3. Reported in PBC.9/6. Could be eliminated from future updated reports.
4. A major objective should be intensive training of the existing EDP staff in the use of modern data-processing techniques and tools, and of the end-users regarding the relevant applications and software packages. (IDB.10/4, para. 178)	4. Covered under recommendation No. 3, annex I, in this and future updated reports.
5. Standards should be established and complied with, throughout the Organization as a whole, regarding the use of software packages (i.e. word processing, database products, spreadsheets) thus enabling the transfer of any document without conversion problems and/or duplication of efforts. (IDB.10/4, para. 179)	5. In addition to its endorsement of standards regarding hardware and basic software as reported in PBC.9/6, ITSC has since endorsed standards for minimum hardware configurations, as well as related software, for future acquisition. Additional standards, as well as procedures to facilitate the transfer of information between the mainframe and desktop equipment, have been submitted to and are pending endorsement by the Committee.
6. It is also of great importance that EDP staff as well as the end-users will be highly motivated to accept the (new) tools and applications as a valuable support to their work. This applies to UNIDO staff at Headquarters as well as for field staff. (IDB.10/4, para. 180)	6. Reported in PBC.9/6. Could be eliminated from future updated reports.

Annex III

COST OF IMPLEMENTATION IN 1992-1993 BIENNIUM

(In US dollars at US$ 1 = AS 12.90)

	1992-1993 allotments (1) a/	Disbursements 01/01/92-31/12/93 (2)	Obligations (3) b/	Expenditure (2 + 3) (4)	Balance (1 - 4) (5)
Staff costs	3,957,500	3,893,929	61,485	3,955,414	2,086
Income	(286,400)	(292,408)	-	(292,408)	6,008
Mainframe					
Hardware	1,686,200	1,686,114	-	1,686,114	86
Software	1,445,100	1,380,309	42,326	1,422,635	22,465
Operation and maintenance	2,163,400	2,163,361	-	2,163,361	39
Office automation					
Hardware	1,130,400	956,107	171,992	1,128,099	2,301
Software	189,600	131,230	53,257	184,487	5,113
Maintenance	673,000	622,870	23,388	646,258	26,742
Other					
Supplies and materials	397,700	282,443	101,472	383,915	13,785
Network	316,100	173,604	122,436	296,040	20,060
External computer costs	25,000	19,542	5,271	24,813	187
Training	285,000	265,950	18,284	284,234	766
Consultancy support	120,000	110,848	8,500	119,348	652
Software development	52,100	52,072	-	52,072	28
Printing and reproduction	300	164	-	164	136
Income	(340,000)	(375,571)	-	(375,571)	35,571
TOTAL	11,815,000	11,070,564	608,411	11,678,975 c/	136,025

a/ Allotments represent the 1992-1993 biennium appropriations excluding inflation on non-staff costs.

b/ Obligations include contractual commitments for 1992 and 1993.

c/ Total expenditure of $11,678,975 for the biennium compares favourably against the approved appropriation of $12,363,000 (GC.4/Res.27).

Annex IV

CONTRACTUAL COMMITMENTS IN THE BIENNIUM 1992-1993

(In US dollars at US$ 1 = AS 12.90)

Contract number	Supplier	Description	Period	1992	1993	1994	Total
92/319	IBM	Mainframe leasing	07/02/89-30/06/94	790,698	790,698	2,435,594	4,016,990
92/295	IBM	Software licence	07/02/89-31/03/94	456,205	475,824	122,333	1,054,362
92/303	IBM	Facilities management	01/07/90-31/03/94	1,057,302	1,096,357	264,326	2,417,985
92/300	IBM	Token ring network	07/02/89-31/12/94	14,056	14,688	14,688	43,432
92/230	IBM	Computer manuals	01/01/92-31/12/92	7,054	-	-	7,054
92/318	Olivetti	Leasing of 100 PCs	01/01/89-30/09/93	100,279	75,209	-	175,488
92/291	Olivetti	Leasing of printers	01/10/89-30/09/93	60,694	45,520	-	106,214
92/345	Olivetti	Olivetti PC maintenance and repair	01/01/92-29/02/92	26,849	-	-	26,849
92/284	Management Data Wang	PC and printer leasing	01/03/90-28/02/94	70,750	70,750	11,790	153,290
92/292	Dataservice	PC leasing	01/04/89-31/05/93	15,005	5,660	-	20,665
92/321	MBA	PC leasing	12/12/89-31/12/93	16,477	16,477	-	32,954
92/302	Rank Xerox	RX4090 printer/copier maintenance	01/07/90-open-ended	62,065	62,065	-	124,130
92/224	Rank Xerox	RX4050 printer/copier rental and maintenance	01/01/91-open-ended	95,837	95,837	-	191,674
92/327	Rank Xerox	4046 printer rental	04/04/89-open-ended	6,716	-	-	6,716
92/320	Rank Xerox	EPIC and HFDL software maintenance	01/12/89-open-ended	2,944	3,037	-	5,981
92/346	Rank Xerox	Cost of prints for laser printers	01/01/92-31/12/92	34,884	-	-	34,884
92/347	Rank Xerox	Laser printer maintenance	01/01/92-31/03/92	7,581	-	-	7,581
92/348	Rank Xerox	Laser printer maintenance	01/01/92-31/03/92	800	-	-	800
92/299	Candle	Omegamon software maintenance	01/07/89-open-ended	18,412	18,412	-	36,824
92/306	Computer Associates	Librarian MVS software maintenance	04/12/89-open-ended	22,133	23,240	-	45,373
92/288	APT	Oliver software maintenance	11/12/89-open-ended	6,089	6,500	-	12,589
92/307	SAS Heidelberg	SAS Base System and utilities	01/04/90-open-ended	50,090	51,380	-	101,470
92/245	SAS Heidelberg	Computer manuals	01/01/92-31/12/92	4,884	-	-	4,884
92/296	Software AG	ADABAS maintenance	21/12/89-open-ended	45,888	53,222	-	99,110
92/246	Software AG	Computer manuals	01/01/92-31/12/92	4,806	-	-	4,806
92/231	General Electric	Geisco service	01/01/92-31/12/93	11,628	11,628	-	23,256
92/248	Gammag	Wang master CPUs maintenance and repair	01/01/92-30/04/93	52,656	32,841	-	85,497
92/248	Gammag	Wang software support	01/01/92-31/12/92	13,029	-	-	13,029
92/307	IAEA	Computer usage	07/02/89-open-ended	4,651	4,651	-	9,302
92/229	IAEA	LTC maintenance	01/01/92-31/12/92	7,643	-	-	7,643
92/229	IAEA	LTC rental	01/01/92-31/12/92	10,060	-	-	10,060
92/297	University of Vienna	EARN participation	01/01/92-31/12/93	7,442	7,442	-	14,884
92/309	International Computing Centre, Geneva	Participation	01/01/92-31/12/93	16,000	6,000	-	22,000

Contract number	Supplier	Description	Period	1992	1993	1994	Total
92/311	Telerate	Financial market information	01/01/92-31/12/93	7,209	9,437	-	16,646
92/314	PTT	Line rental and use	01/01/92-31/12/93	1,163	1,163	-	2,326
92/232	PTT	Line rental and use	01/01/92-31/12/93	19,690	19,690	-	39,380
92/233	Radio Austria	Line rental and use	01/01/92-31/12/93	1,163	1,163	-	2,326
92/234	PTT	Line rental and use	01/01/92-31/12/93	9,302	12,403	-	21,705
92/235	Radio Austria	Line rental and use	01/01/92-31/12/93	2,326	2,326	-	4,652
92/236	PTT/Radio Austria	Line rental and use	01/01/92-31/12/93	349	349	-	698
92/237	PTT	Line rental and use	01/01/92-31/12/93	698	930	-	1,628
92/212	Prager Consult	Training	01/01/92-30/06/92	96,613	-	-	96,613
92/212	Prager Consult	Training	15/09/92-31/12/93	33,645	128,913	-	162,558
92/422	Elektro Polst	Cabling of floor D-18	07/10/92-23/12/92	46,111	-	-	46,111
92/405	Share Europe	Membership fee	01/07/92-31/12/93	400	937	-	1,337
92/251	Andersen Consulting	Consultancy	Dec.1991-31/12/92	65,000	-	-	65,000
92/349	TSG	Computer equipment	01/01/92-31/03/92	56,203	-	-	56,203
93/281	TSG	maintenance and repair	1993	-	77	-	77
92/339	Alcatel	Leasing of 12 PCs	01/01/92-31/05/92	5,863	-	-	5,863
92/350	Maschinda	Bar code reader maintenance (UNIDO portion)	01/01/92-31/12/92	914	-	-	914
92/352	Gammag	Repairs and maintenance	1992	1,482	-	-	1,482
92/353	Software AG	Repairs and maintenance	1992	62	-	-	62
92/358	Anglo Elementar	Repairs and maintenance	1992	33	-	-	33
92/377	Anglo Elementar	Repairs and maintenance	1992	189	-	-	189
92/382	EDV Software AG	Software	1992	3,625	-	-	3,625
92/382	EDV Software AG	Software	1992	1,741	-	-	1,741
92/386	Anglo Elementar	Spares	1992	33	-	-	33
92/388	Rank Xerox	Computer equipment maintenance	1992	1,484	-	-	1,484
92/389	Rank Xerox	Computer equipment maintenance	1992	1,843	-	-	1,843
92/390	Gammag	Computer equipment maintenance	1992	1,893	-	-	1,893
92/393	Computer Associates	Software licence fee	1992 and 1993	3,256	3,256	-	6,512
92/397	Gammag	Maintenance	1992	1,008	-	-	1,008
92/398	Gammag	Maintenance	1992	4,933	-	-	4,933
92/402	Rank Xerox	Repairs and maintenance	1992	3,552	-	-	3,552
92/403	Gammag	Repairs and maintenance	1992	4,960	-	-	4,960
92/410	Candle	Maintenance and repairs	1992	10,853	-	-	10,853
92/411	Gammag	Repairs	1992	6,327	-	-	6,327
92/412	SRS	Repairs	1992	1,039	-	-	1,039
92/415	Experteam	Training	1992	9,922	-	-	9,922
92/419	Alcatel	Repairs and maintenance	1992	2,319	-	-	2,319
92/420	Gammag	Repairs	1992	3,708	-	-	3,708
92/421	Rank Xerox	Repairs	1992	89	-	-	89
92/425	Data Transport Systems	Consultancy	1992	4,000	-	-	4,000
92/425	Data Transport Systems	Consultancy	1992	2,000	-	-	2,000
92/426	EDV Software	Software licence	1992	28,130	-	-	28,130
92/430	Rank Xerox	Repairs and maintenance	1992	253	-	-	253
92/431	Schiessel	Repairs and maintenance	1992	380	-	-	380

Contract number	Supplier	Description	Period	1992	1993	1994	Total
92/432	Rank Xerox	Repairs and maintenance	1992	819	-	-	819
92/433	Gammag	Repairs and maintenance	1992	5,083	-	-	5,083
92/434	Gammag	Repairs and maintenance	1992	7,860	-	-	7,860
92/439	Gammag	Repairs and maintenance	1992	7,864	-	-	7,864
93/290	Rank Xerox	Maintenance and prints	1993	-	7,752	-	7,752
93/325	Rank Xerox	Maintenance and prints	1990 and 1991	-	65,683	-	65,683
93/327	Rank Xerox	Maintenance and repairs	1993	-	13,566	-	13,566
93/328	Gammag	Maintenance and repairs	1993	-	93,024	-	93,024
93/329	Alcatel	Maintenance and repairs	1993	-	3,876	-	3,876
93/330	Olivetti	Maintenance and repairs	1993	-	3,876	-	3,876
93/331	TSG	Maintenance and repairs	1993	-	3,876	-	3,876
93/332	Schiessel	Maintenance and repairs	1993	-	3,876	-	3,876
93/267	Software AG	NATURAL CICs, NATURAL ISPF licence fee	1993	-	40,186	-	40,186
93/371	Touche Ross	Review facilities management specifications	1993	-	15,504	-	15,504
93/372	Computer Weekly	Advert, facilities management contract	1993	-	1,298	-	1,298
93/374	IDG (Computerwelt)	Advert, facilities management contract	1993	-	904	-	904
93/374	IDG (Computerwoche)	Advert, facilities management contract	1993	-	1,378	-	1,378
93/375	IDG (Computerworld)	Advert, facilities management contract	1993	-	1,545	-	1,545
93/385	IAEA	LTC maintenance	1993	-	7,752	-	7,752
93/386	Maschinda	Bar code reader maintenance (UNIDO portion)	1993	-	928	-	928
93/399	Compuware System Software	CICS Abend Aid software licence fee	1993	-	33,529	-	33,529
93/416	EDV Software	NATURAL ISPF user manuals	1993	-	698	-	698
93/417	EDV Software	NATURAL for VSAM	1993	-	41,364	-	41,364
93/425	Touche Ross	Review facilities management contract bids	1993	-	8,582	-	8,582
93/436	Data Transport Systems	Consultancy	1993	-	1,500	-	1,500
CLT 93/209	H. Licayan	Consultancy	1993	-	21,000	-	21,000
CLT 93/064	Mustonen	Consultancy	1993	-	12,000	-	12,000
93/449	EVN Rechenzentrum	Installation NATURAL V.2.2.5	1993	-	3,101	-	3,101
93/462	Elektro Polst	Cabling floors D-16, D-21	1993	-	100,197	-	100,197
93/475	EVN Rechenzentrum	Installation NATURAL V.2.2.5	1993	-	32,946	-	32,946
	TOTAL			3,568,996	3,668,023	2,848,731	10,085,750

Abbreviations

CPU - Central processing unit
LTC - Local terminal controller
PC - Personal computer